

PRC

protective coatings
caulking compounds
sealants • adhesives

INTERIM TECHNICAL DATA SHEET

PR-1560-MC and PR-1560-MK

USE

As a protective coating on the interior aluminum surfaces of aircraft integral fuel tanks to prevent corrosion.

DESCRIPTION

PR-1560-MC and PR-1560-MK are two-part urethane materials especially formulated to meet Specification MIL-C-27725 and Los Angeles Air Pollution Control District Rule 66.

PR-1560-MC and PR-1560-MK may be applied before or after assembly and before or after sealing to provide protection against corrosion in integral fuel tanks and fuel bays.

PR-1560-MC and PR-1560-MK have excellent resistance to fresh water, salt water, and fuels. They have good adhesion to the common chemical films on aluminum and to MIL-S-8802 sealants and these sealants adhere tenaciously to PR-1560-MC and PR-1560-MK. The coatings retain flexibility over metal at -65°F and do not cause premature cracking of sealants.

PR-1560-MC has chlorobenzene as its primary solvent while PR-1560-MK has methyl ethyl ketone as its primary solvent.

SPECIFICATIONS

Meet requirements of MIL-C-27725B, Type II, Class B.

APPLICATION PROPERTIES (Typical)

(Test methods in accordance with MIL-C-27725B where applicable.)

Color	Part A	Amber
	Part B	Green
Mixing Ratio	1:2 by volume (Part A: Part B)	
Nonvolatile Content	45%	
Viscosity, Ford #4 Cup	15 sec. @ 75°F	
Flash Point		
PR-1560-MC	104°F TOC	
PR-1560-MK	35°F TOC	
Weight		
PR-1560-MC	10.2 lbs./gal.	
PR-1560-MK	8.9 lbs./gal.	
Coverage	350 sq. ft./gal./mil.	
(Coverage is approximate, since area covered will depend upon application technique, wastage, and surface condition.)		
Recommended Film Thickness	0.5 to 1.5 mil.	
Application Life	8 hrs. @ 75°F, 50% RH	
Drying Time		
(Dry to handle)	45 mins. @ 75°F, 50% RH	
Cure Time (Ultimate)	10 days @ 75°F, 50% RH or 1 hr. @ 225°F	
(Intermediate temperature cure rates are available upon request.)		

PURCHASING DATA

PRODUCT DESIGNATION

When ordering these products, designate PR-1560-MC or PR-1560-MK.

STANDARD PACKAGING

Designation	Part A Containers	Part B Containers	No. per Case
12 fl. oz. unit	1/4-pt. can	1 1/2-pt. can	16
24 fl. oz. unit	1/2-pt. can	1 1-pt. can	12
96 fl. oz. unit	1-qt. can	2 1-qt. cans	4
3 gallon unit	1-gal. can	2 1-gal. cans	1
15 gallon unit	5-gal. lug cover pail	2 5-gal. lug cover pails	—

NOTE: The unit designates the total volume content of Part A and Part B (128 fluid ounces per gallon). Standard units are furnished with a premeasured quantity of Parts A and B individually packaged.

SHIPPING CLASSIFICATION FOR PR-1560-MC: Paint, NOI

SHIPPING CLASSIFICATION FOR PR-1560-MK:

Compounds, Lacquer, Paint or Varnish Thinning or Reducing Liquids, Flammable Liquids Containing Methyl Ethyl Ketone, Flash Point 35°F.

PERFORMANCE PROPERTIES (Typical)

(Test methods in accordance with MIL-C-27725B where applicable.)

Color — Green

Fluid and Corrosion Resistance

No blistering, softening, corrosion extending more than 1/8" beyond scribe marks or loss of adhesion after the following conditions:

Liquid and vapor phase of distilled water for 30 days @ 140°F.

Liquid and vapor phase of 2-layer liquid consisting of salt water and jet reference fluid for 30 days @ 140°F.

Complete immersion in MIL-L-7808 engine oil for 14 days @ 250°F.

Complete immersion in MIL-H-5606 hydraulic fluid for 14 days @ 180°F.

Complete immersion in 0.5% by weight ferric chloride solution for 10 days @ 140°F.

Complete immersion in ethyl alcohol for 7 days @ 140°F.

Complete immersion in toluol for 7 days @ 140°F.

Salt spray for 500 hours @ 75°F.

Extractables

In TT-S-735, Type III fluid after 48 hrs. @ 75°F.

2 mg./100ml.

Adhesion

MIL-S-8802 sealants to PR-1560-MC or PR-1560-MK

> 20 lbs./in. of width peel

PR-1560-MC or PR-1560-MK to MIL-S-8802 sealants

No cracking of coating when tested for low temperature flexibility at -20°F and -65°F.

PR-1560-MC or PR-1560-MK to MIL-S-4383 coating

No blistering, softening, or separation after 7 days in 2-layer salt water —jet reference fluid @ 140°F.

To aluminum, passivated cadmium plate, and PR-1901 primed titanium

Excellent

PR-1560-MC and PR-1560-MK

SUPERSEDES

DECEMBER 1967

PRODUCTS RESEARCH & CHEMICAL CORPORATION
PRC COATINGS AND SEALANTS DIVISION

DATE ISSUED

REF:DAV 1074

BOE-C6-0226699

Low Temperature Flexibility	-65°F
Temperature Resistance	300°F
Repairability	Excellent

NOTE: The above application and performance property values are typical for the material, but are not intended for use in specifications or for acceptance inspection criteria because of variations in testing methods, conditions, and configurations.

SURFACE PREPARATION

NOTE: PR-1560-MC and PR-1560-MK must not be applied to bare aluminum. To provide optimum adhesion and corrosion resistance, bare aluminum must be given a chemical coating, such as Iridite,* Alodine,** anodize, etc. before application of the coating.

To obtain good adhesion to alclad, the surface should be cleaned with an inhibited alkaline cleaner in accordance with cleaner manufacturer's instructions.

Chemical coatings on aluminum such as, Iridite, Alodine, anodize, etc., should be cleaned with solvents. Use an oil free solvent (reclaimed solvents should not be used) that will dissolve oil and wax. A progressive cleaning procedure should be used. Wash one small area at a time, then dry with a clean cloth before solvent evaporates to prevent redeposition of oil, wax or other surface contaminants. To maintain a clean solvent supply, always pour the solvent on the washing cloth.

Cadmium plated surfaces must be plated in accordance with Federal Specification QQ-P-416, Class 2. Clean cadmium plated surfaces with an oil-free solvent using the procedure above for chemical-coated aluminum.

NOTE: Surfaces cadmium plated by other methods than described by Federal Specification QQ-P-416, Class 2 must be tested with PR-1560-MC or PR-1560-MK to determine whether or not the desired results are obtained.

Titanium must be cleaned by scouring or chemical etching and primed with a thin coating of PR-1901 primer. Allow PR-1901 to dry a minimum of 1 hour and a maximum of 24 hours at 75°F before application of PR-1560-MC or PR-1560-MK.

Coatings of MIL-S-4383 materials which have been in service must be cleaned with a detergent such as Alumaloy P manufactured by Cee Bee Chemical Company, Downey, California, rinsed with clean water and thoroughly dried.

NOTE: Water cannot be tolerated as a contaminant.

MIXING INSTRUCTIONS

Stir Part B thoroughly. Mix 1 part of Part A with 2 parts of Part B by volume. Keep unmixed Parts A and B tightly closed when not in use. Opened, partly full containers of Part A will not keep more than a week. Part B will thicken on long exposure to the air and may gel. Do not mix more material than will be used in 8 hours.

APPLICATION PROCEDURE

A. By Standard Spray System

A standard spray gun, such as a DeVilbiss P-MBC-510 spray gun with a 45-G nozzle combination, using an approximate pressure feed tank pressure of 5 psig and an atomizing air pressure of approximately 35 psig is suitable. Provisions must be made

to remove adequately all free water and oil from the compressed air supply.

Pressure feed tanks must be equipped with mechanical agitators to provide proper pigment suspension. Spray with a light double pass to bare cover. Avoid film thickness greater than one mil. Immediately after use, clean all equipment and lines with a solvent, such as methyl ethyl ketone.

B. By Catalyst Spray System

A catalyst-type spray gun, such as a DeVilbiss P-JGC-501-78FZ in conjunction with two pressure pots, necessary pressure regulators and flow meter may be used. Provision must be made to remove adequately all free water and oil from the compressed air supply.

When using catalyst spray systems with PR-1560-MC and PR-1560-MK, the equipment should be adjusted in accordance with the equipment manufacturers' recommendations to provide flow rates of Parts A and B in the correct proportions.

CURE

The product, under normal conditions of temperature and humidity, will be tack free in 15 minutes and dry hard in about an hour. As the film dries, it becomes progressively harder. Solvent resistance continues to improve for several weeks. Exposure of the film to water at any time after the coating has become tack free will not affect the film adversely.

Complete cure requires approximately 10 days at 75°F with a relative humidity of at least 30%. Cure may be accelerated by the application of heat up to 225°F. Intermediate temperature cure rates are available upon request. The state of cure always should be checked by rubbing a test spot with a gauze pad wet with methyl ethyl ketone. Bare metal should not be exposed in 50 double strokes of the pad at moderate pressure when cure is complete.

NOTE: PR-1560-MC and PR-1560-MK may be subjected to a curing temperature of 225°F twenty minutes after the application, provided adequate ventilation is available for the oven.

REPAIR

In areas where PR-1560-MC or PR-1560-MK has been scratched, gouged, or otherwise damaged, lightly abrade surrounding area and feather the edges. Clean surface with methyl ethyl ketone and apply new coating of PR-1560-MC or PR-1560-MK overlapping existing PR-1560-MC or PR-1560-MK. If the scratch or gouge has removed the chemical conversion coating, the damage must be repaired and new chemical conversion coating, such as Alodine, applied in accordance with regulating documents before application of the repair coat of PR-1560-MC or PR-1560-MK. Tanks may be refueled after curing the repair area for a minimum of 24 hours at 120°F and 30% relative humidity or 6 hours at 120°F and 50% relative humidity. This accelerated cure will provide enough fuel resistance for PR-1560-MC or PR-1560-MK to allow refueling the tank and ultimate cure will be reached during service. When using a heat cure for PR-1560-MC or PR-1560-MK, conditions must be such that condensate will not occur on the coating until after it has become tack free.

CLEANING OF EQUIPMENT

Equipment should be cleaned immediately after use with methyl ethyl ketone.

*Registered trademark of Allied Research Products, Inc.

**Registered trademark of Amchem Products, Inc.

with RACE as manufactured by DuBois Chemical, Cincinnati, Ohio or Turco 4934 or 5003 as manufactured by Turco Products, Wilmington, California.

NOTE: When using stripping compounds follow the manufacturers' directions and precautions.

STORAGE LIFE

The storage life of PR-1560-MC and PR-1560-MK is approximately 6 months when stored in the original, unopened containers at temperatures between 70°F and 90°F.

SAFETY PRECAUTIONS

WARNING: PR-1560-MK CONTAINS FLAMMABLE AND VOLATILE SOLVENTS. PR-1560-MC CONTAINS COMBUSTIBLE AND VOLATILE COMPONENTS.

Keep away from heat, sparks, and flame. Proper safety precautions used with flammable material must be taken when applying this product. Comply with all local safety regulations.

HEALTH PRECAUTIONS

The uncured components of PR-1560-MC and PR-1560-MK will produce irritation following contact with the skin, eyes, or clothing. Avoid breathing vapors. When handling components of PR-1560-MC and PR-1560-MK, avoid all contact with the body, especially contact with open breaks in the skin and ingestion. Special care must be used to avoid skin contact with Part A. Always wash hands before eating or smoking.

PR-1560-MC contains chlorobenzene and PR-1560-MK contains methyl ethyl ketone primarily. The maximum allowable concentration in air for safe working conditions is 75 parts per million and 250 parts per million, respectively. (Refer to *Dangerous Properties of Industrial materials* by N. Irving Sax.) Fresh-air supply standard painters' hood and impermeable protective clothing to keep material from contacting skin must be worn by all personnel entering areas or tanks where PR-1560-MC or PR-1560-MK is being applied or has been applied until vapors have been exhausted.

When applying PR-1560-MC or PR-1560-MK in a confined area, such as an integral fuel tank, fresh air blowers should be arranged so that an air stream is from above and behind the person applying the material. This will keep vapors and spray away from the applicator. Vapors of PR-1560-MK are lighter than air so normal ventilation equipment can be employed. However, the vapors of PR-1560-MC are heavier than air so the discharge vent should be in the bottom of the tank at the opposite end from the air blower. If suction ventilation equipment is used, the suction should be at the bottom of the tank at the opposite end from the air inlet vent, which should be in the top of the tank.

The PR-1560-MC and PR-1560-MK should be applied starting in the area in the vicinity of discharge vent or suction ventilation hole and continued toward the end of the tank with the fresh air inlet. In small areas other than in fuel tanks, the same general procedure of having the fresh air supply carry fumes and spray away from the operator and using suction ventilation on the floor or at the lowest point in the area at opposite sides from the fresh air inlet should be used.

"PRC" is a trademark of Products Research & Chemical Corporation, registered with the U.S. Patent Office

All recommendations, statements, and technical data contained herein are based on tests we believe to be reliable and correct, but accuracy and completeness of said tests are not guaranteed and are not to be construed as a warranty, either express or implied. User shall rely on his own information and tests to determine suitability of the product for the intended use and user assumes all risk and liability resulting from his use of the product. Seller's and manufacturer's sale responsibility shall be to replace that portion of the product of this manufacturer which proves to be defective. Neither seller nor manufacturer shall be liable to the buyer or any third person for any injury, loss, or damage directly or indirectly resulting from use of, or inability to use, the product. Recommendations or statements other than those contained in a written agreement signed by an officer of the manufacturer shall not be binding upon the manufacturer or seller.

DMS 1850

1 Gallon broken down
into 4 quarts

TYPE I - COATING, INTEGRAL FUEL TANK

BASE COMPONENT

DMS 1850B

DATE OF MANUFACTURE: 2/76

C-21748

TO BE CATALYZED WITH BATCH C-21748
OF CURING SOLUTION PR-1563

SHELF LIFE: 12 MONTHS

ONLY PART A AND PART B CONTAINERS WITH THE SAME
C NUMBERS SHOULD BE MIXED TOGETHER.

DO NOT OPEN UNTIL READY TO USE.

DIRECTIONS FOR USE:

THOROUGHLY MIX TOGETHER ENTIRE CONTENTS OF BOTH CONTAINERS.,
OR MIX IN THE RATIO 1 PART A TO 4 PARTS B BY VOLUME.
THIN TO SPRAYABLE CONSISTENCY WITH PR-1563 THINNER.

WARNING!

CAUSES IRRITATION OF SKIN, EYES,
NOSE AND THROAT.

USE ONLY WITH ADEQUATE VENTILATION .
AVOID EXPOSURE TO VAPOR.

AVOID CONTACT WITH SKIN.

IN CASE OF CONTACT, IMMEDIATELY WASH
THOROUGHLY WITH SOAP AND WATER.

Recommendations for the use of this product are based on tests we believe to be reliable. Manufacturer and seller are not responsible for results where the product is used under conditions beyond our control. Under no circumstances will Products Research & Chemical Corporation be liable for damages to anyone in excess of the purchase price of the product.

PRODUCTS RESEARCH & CHEMICAL CORPORATION

2919 EMPIRE AVENUE, BURBANK, CALIFORNIA 91504

410 JERSEY AVE., GLOUCESTER CITY, NEW JERSEY 08030

WORK RELEASE ORDER DAC 30-110AV (REV 1-72)		DOUGLAS AIRCRAFT COMPANY LONG BEACH FACILITY	DATE 6-14-76	W.H.O. NUMBER DC10 - 12681 E
TO: Engineering Schedules, C1-290: All Subdivision & Project Heads Concerned, L. B. Facility			CONTRACT IDENTITY -	
SUBJECT: PASSENGER DOOR AIR MOTOR CLUTCH			PROGRAM NAME & MODEL DC10 ALL	
			DISTRIBUTION DC10 - 1	
W.O. OR E.O. NUMBER A1722/MSCR/A C1017		CHANGE IDENTITY NUMBER (ECP, CMI, SCMI) CCB #8637, dtd 8-27-75		WORK BREAKDOWN IDENTITY NUMBER
SCHEDULE INFO Parts: 3-19-76		PROD. EFFECTIVITY #237 Fus-#239 and Subs (E)		COMP. CHARGE NO Applicable Production
ENG. RELEASE DATE Reissue: 6-25-76 (E) <i>6/14/76</i>		SERVICE CHANGE NO. <i>---</i> SERVICE CHANGE EFFECTIVITY AOL Only		
REVISION: Supersedes WRO DC10-12681"D" Dtd 4-22-76. To Revise Eff. to Include Fus #237 & #238 per Program Office Request as noted (E) <i>6/16</i>				
REFERENCE:				

THIS WRO AFFECTS MSC - CONVAIR

- (E) I. Effective on all DC10 Airplanes, FSN 46964-46960 (Fus #239) and Subs per Schedule Serial #1.2 "BC" the passenger door emergency air motor will be revised to improve the clutch and blades. The identification will be changed from L30825-11 and -12 to 630825-501 and -502. #237

II. HANDLING INSTRUCTIONS:

A. Production:

- (E) 1. Fus #239-Engineering Section BA58 only, shall be handled by DAC in-position. #237
- (E) 2. Fus #239 Engineering Sections DA58, EA58 and GA58 shall be handled by Convair.

III. Major Subcontracts: Attn: R. W. Purcell

- (E) Transmit MSCR/A C1017 to Convair not later than 12-10-75: 6-18-76.

IV. Engineering, C1-250/C1-290:

- (E) Reissue MSCR/A and E.O.'s as required to comply with Schedule-#1.2"BC".
- (E) the above revision.

(D) Babrowski x-35461 (1.2"BC")

(E) Clark, x-35461

-- THIS IS AN IN-POSITION CHANGE --
-- DIRECT PLANNING ACTION PER HANDLING INSTRUCTIONS --

ATE 6-14-76 *6/14/76*

ENGINEERING LINE CHARGE DATE TO	COMP. CHARGE NO Ref: WRO MC5-712 A1722	FOR FURTHER INFORMATION REGARDING THIS WRO, SEE: <i>6/23-4</i> R. W. Clark <i>6/23/76</i> (NAME) (PHONE)	ISSUED BY <i>R. E. Jenkins</i> R. E. Jenkins, C1-311 DC10 Change Control Supv <i>6/23/76</i> <i>6/15/76</i>	PAGE 1 of 1
---	--	---	--	----------------